AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1-21 (Cancelled)

22. (New) Composition comprising: a biodegradable gel-based matrix, at least one active agent and stem cells able to differentiate into cardiac tissue.

23. (New) Composition according to claim 22 wherein the biodegradable gel-based matrix is made of fibrin or proteoglycans or polysaccharides.

24. (New) Composition according to claim 22 wherein the biodegradable gel-based matrix has an elasticity expressed in E-Modulus of 30-80 kPa.

25. (New) Composition according to claim 22 wherein the biodegradable gel-based matrix has a water content of 90 to 95%.

26. (New) Composition according to claim 22 wherein the active agents are chosen in the group consisting of: growth factors, cytokines, bioactive molecules.

27. (New) Composition according to claim 26 wherein the active agents have an alpha2-plasmin inhibitor sequence in their N-terminus.

28. (New) Composition according to claim 26 wherein the growth factors are chosen in the group consisting of: vascular endothelial growth factor (VEGF), epidermal growth factor (EGF), plateled-derived growth factor (PDGF), transforming growth factor beta (TGFβ), insulin growth factor 1 (IGF1), placental growth factor (PLGF), keratinocyte-derived growth factor (KDGF).

29. (New) Composition according to claim 26 wherein the cytokines are chosen from the group consisting of interleukin 6 (IL-6) family, soluble c-kit ligand (s-kitL) and cardiotrophin-1.

30. (New) Composition according to claim 29 wherein the cytokines of IL-6 family are: IL-6, leukemia inhibitory factor (LIF).

31. (New) Composition according to claim 26 wherein the bioactive molecules are chosen in the group consisting of: beta-blockers and thymosin β4.

32. (New) Composition according to claim 22 wherein the stem cells able to differentiate to cardiac tissue are embryonic, fetal or adult stem cells.

33. (New) Composition according to claim 32 wherein the stem cells are endothelial progenitor cells (EPCs), mesenchymal stem cells, or monocytes.

34. (New) Composition according to claim 33 wherein the stem cells are isolated from bone marrow or cord blood or peripheral blood or the heart.

35. (New) A method for the treatment of heart failure due to myocardial infarction comprising administering an effective amount of a composition according to claim 22 to a subject in need thereof.

36. (New) A medicament comprising the composition according to claim 22, wherein said medicament is in the form of a patch.

37. (New) Method for the preparation of the medicament according to claim 36 comprising the following steps:

a) forming a gel substrate with a biogradable gel-based matrix made of fibrin, proteoglycans or polysaccharides;

b) admixing to the gel substrate of step a) active agents selected from the group consisting of growth factors, cytokines and bioactive molecules;

c) seeding stem cells on the gel substrate of step b) [;], wherein the stem cells are selected from the group consisting of embryonic, fetal and adult stem cells;

d) cultivating cells of step c) for up to 14 days in order to allow cell differentiation;

e) optionally repeating steps a-d sequentially in order to obtain a multi-layer gel assembly.

38. (New) Embryonic stem cells according to claim 32 transduced with a Lentiviral vector modified from pLenti6/BLOCK-iT-DEST comprising cPPT= central polypurine tract cassette, cardiac-specific promoter inserted in a multiple cloning site, a gene of interest, w= woodchuck cassette, EM7 constitutive promoter, blasticidin resistance gene.